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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/107,684      06/30/98      BLUMENAU

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EXAMINER

ENCARNACION, Y

ART UNIT

PAPER NUMBER

2185

DATE MAILED:

10/25/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

*See Attached...*

# Office Action Summary

Application No.  
09/107,684

Applicant(s)  
Blumenau et al.

Examiner  
Yamir Encarnacion

Group Art Unit  
2185



☒ Responsive to communication(s) filed on Aug 7, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-22 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-22 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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**DETAILED ACTION*****Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Voigt* (USPN: 6,092,168) as applied to claim above, and further in view of *Sarner* (USPN: 5,379,212).

As to claims 1, 12, and 22,

<b>Claimed</b>	<b><i>Voigt</i></b>
1. A storage system for use in a computer system including a host computer, the storage system comprising:  at least one storage device having a plurality of storage locations; and	In column 6, claim 1 states:  “writing a data pattern from a host computing unit to a designated storage space”
a controller that controls access to the at least one storage device from the host computer,	See figure 2, the pattern detector 72.

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the controller being capable of <u>generating</u> <u>data and</u> writing <u>the</u> data to a first storage location of the plurality of storage locations on the at least one storage device in response to a communication from the host computer that does not include the data to be written to the first storage location.	In column 6, claim 1 states:  “detecting at the data storage system, whether the data pattern matches a predefined data pattern;  if the data pattern matches the predetermined data pattern, deallocating the designated storage space”
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*Voigt* does not explicitly disclose how the designated storage space is deallocated.

*Sarner* discloses in column 4, lines 23-28, that:

“External means of erasure of the memory devices 1 and 2 are not shown, but could be accomplished either by physical removal of the devices and replacement, or by the addition of a circuit which causes writing zeroes to all memory locations in both the devices upon an appropriate externally supplied signal.”

In view of *Sarner*, a person of ordinary skill in the art would have recognized that writing zeroes to all memory locations is a form of deallocation. Therefore, it would have been obvious to a person of ordinary skill in the art to perform deallocation in *Voigt* by writing zeroes as was done in *Sarner*.

As to claims 2 and 13, the amount of space deallocated by the *Sarner/Voigt* combination is predetermined.

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As to claims 3 and 14, the *Sarner/Voigt* combination writes data having a value of zero.

As to claims 5 and 16, the data being deallocated is in the data storage system 24 of *Voigt*. In *Voigt*, column 3, lines 49-54 states that logical volumes are mapped to physical disks. Therefore, in the embodiment disclosed by *Voigt*, when data in one logical volume is spread among a plurality of physical disks, a deallocation of data on the logical volume would necessarily involve the plurality of physical disks when the data being deallocated is spread among the plurality of physical disks.

As to claims 4 and 15, see the comment for claim 5 above. Note that in the interpretation above, the “non-contiguous storage locations on the at least one storage device” are the plurality of physical disks on the one logical volume.

As to claims 6 and 17, see the comments for claims 4 and 5 above.

At to claims 7 and 18, from the deallocation command, the areas to be deallocated can be identified.

As to claims 8 and 19, see the comments for claims 4 and 5 above.

As to claims 9 and 20, see the comments for claim 4, 5, and 3 above.

As to claim 10, see figure 2, the pattern generator 74.

As to claims 11 and 21, see figure 2, the storage system 24.

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***Response to Arguments***

3. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this or an earlier communication from the Examiner should be directed to Yamir Encarnacion by phone at (703) 308-5466.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Do Yoo, can be reached on (703) 308-4908.

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Any formal response to this action intended for entry should be mailed to Box AF, Commissioner of Patents and Trademarks, Washington, D.C. 20231 or faxed to (703) 308-9051 and labeled "EXPEDITED PROCEDURE." Any informal or draft communication should be faxed to (703) 305-9731 and labeled "INFORMAL" or "UNOFFICIAL" or "DRAFT" or "PROPOSED" and followed by a phone call to the Examiner at the above number. Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Yamir Encarnacion

Patent Examiner

October 23, 2000

  
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SUPERVISORY PATENT EXAMINER  
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